

STATE OF ALASKA

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL & GAS

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TO: Distribution list

FROM: Patrick S. Galvin
Petroleum Lands Manager

SUBJECT: Final ACMP Consistency Determination for Proposed Gas Storage Lease Application (ADL 390821), Kenai Gas Field, Sterling Pool 6

The Alaska Department of Natural Resources (ADNR), Division of Oil and Gas (DO&G) has reviewed the proposed gas storage lease application for consistency with the Alaska Coastal Management Program (ACMP). Marathon Oil Company (Marathon) proposes to store natural gas in the Sterling Formation Pool 6 C1 and C2 gas sands utilizing gas wells and facilities located approximately seven miles west of Soldotna, Alaska. No construction or modifications to the existing facilities are required. All of the lands within the proposed storage area are subject to existing oil and gas leases in the Kenai River Unit, owned and operated by Marathon. The state's portion of the reservoir includes all acreage leased or subject to lease under AS 38.05.180. The proposed storage lease includes 2,637.96 acres of state lands in the following described tracts:

T. 5 N., R. 11 W., Seward Meridian, Alaska

Section 28: W $\frac{1}{2}$ SW $\frac{1}{4}$; 80.00 acres;
Section 29: E $\frac{1}{2}$, E $\frac{1}{2}$ W $\frac{1}{2}$, W $\frac{1}{2}$ SW $\frac{1}{4}$, NW $\frac{1}{4}$ NW $\frac{1}{4}$, 600.00 acres;
Section 30: NE $\frac{1}{4}$ NE $\frac{1}{4}$, S $\frac{1}{2}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$, Lots 13, 14 & 15, 295.43 acres;
Section 30: All tide and submerged land within the SE $\frac{1}{4}$ SW $\frac{1}{4}$, 19.48 acres;
Section 31: NE $\frac{1}{4}$ SE $\frac{1}{4}$, W $\frac{1}{2}$ E $\frac{1}{2}$, Lots 3, 4, 5, 7, 8, and 10, 284.67 acres;
Section 31: All tide and submerged land within E $\frac{1}{2}$ NW $\frac{1}{4}$ and SW $\frac{1}{4}$, 139.04 acres;

T. 4 N., R. 12 W., Seward Meridian, Alaska

Section 1: NE $\frac{1}{4}$ NE $\frac{1}{4}$, E $\frac{1}{2}$ SE $\frac{1}{4}$, Lots 1, 2, 4 & 5, 209.20 acres;
Section 1: All tide and submerged land within the W $\frac{1}{2}$ E $\frac{1}{2}$ and E $\frac{1}{2}$ W $\frac{1}{2}$, 217.63 acres;
Section 12: E $\frac{1}{2}$ E $\frac{1}{2}$, E $\frac{1}{2}$ W $\frac{1}{2}$ E $\frac{1}{2}$, Lots 5 thru 18 & 20, 269.81 acres;
Section 12: All tide and submerged land within the E $\frac{1}{2}$ W $\frac{1}{2}$ and W $\frac{1}{2}$ E $\frac{1}{2}$, 207.70 acres;
Section 13: E $\frac{1}{2}$ NE $\frac{1}{4}$, E $\frac{1}{2}$ W $\frac{1}{2}$ NE $\frac{1}{4}$, E $\frac{1}{2}$ W $\frac{1}{2}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ SE $\frac{1}{4}$, E $\frac{1}{2}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$, E $\frac{1}{2}$ W $\frac{1}{2}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$, Lots 5 thru 12 and the easterly 2.5 acres in Lots 15 and 16; 226.08 acres;
Section 13: All tide and submerged land within W $\frac{1}{2}$ NE $\frac{1}{4}$ and E $\frac{1}{2}$ NW $\frac{1}{4}$, 88.92 acres.

The proposed lease area lies within Alaska's coastal zone, and has been reviewed for consistency with the Kenai Peninsula Borough Coastal Management Plan (KPBCMP).

"Develop, Conserve, and Enhance Natural Resources for Present and Future Alaskans."

On January 10, 2006 DO&G initiated an ACMP review for the proposed gas storage lease. Agencies, the local government, the coastal district, the oil and gas industry, and the public were invited to comment on the proposed lease's consistency with the ACMP, and on any issues relative to the state's best interests regarding the proposal. Three entities provided comments. No commenters identified concerns relative to the proposed lease's consistency with the ACMP. DO&G issued a proposed consistency determination under 11 AAC 110.255 on March 7, 2006.

Pursuant to 11 AAC 110.600, a state resource agency, the project applicant, or an affected coastal resource district that did not concur with the proposed consistency determination could request an elevation of the proposed determination to the ADNR's director or commissioner. Instructions for how to initiate an elevation were provided in the proposed consistency determination. The deadline for requesting elevation was 5:00 p.m. Alaska time, March 17, 2006. No elevation requests were received.

A best interest finding for the proposed lease is valid for the length of the lease. However, proposed activities on the lease will be subject to ACMP consistency. The best interest finding for the proposed lease is being released concurrently with this final consistency determination.

DO&G will attach the mitigation measures and lessee advisories below as terms of the storage lease.

Abbreviations used in the following sections include: Alaska Department of Environmental Conservation (ADEC), Alaska Department of Fish and Game (ADF&G), Alaska Department of Natural Resources (ADNR), Director (Director, ADNR/Division of Oil and Gas), ADNR/Division of Forestry (DOF), ADNR/Division of Mining, Land and Water (DMLW), ADNR/Division of Parks and Outdoor Recreation (DPOR), Kenai Peninsula Borough (KPB), ADNR/Office of Habitat Management and Permitting (OHMP), ADNR/State Historic Preservation Officer (SHPO), U.S. Army Corps of Engineers (USCOE), and U.S. Fish and Wildlife Service (USFWS).

MITIGATION MEASURES AND LESSEE ADVISORIES

Facilities and Operations

1. The Lessee must submit a plan of operations to the state for approval as required by 11 AAC 83.158. Where surface activities are proposed on non state-owned land, the Lessee must submit a copy of the plan of operations to the private surface owner. Plans of operation must describe the Lessee's efforts to minimize impacts on residential areas and privately-owned surface lands.
2. The Lessee must disclose any requests for exceptions to these mitigation measures and advisories in their plans of operation and applicable permit applications.
3. A plan of operations must describe the Lessee's efforts to minimize impacts on residential, commercial, and recreational areas, Native allotments and subsistence use areas. At the time of application, the Lessee must submit a copy of the proposed plan of operations to all surface owners whose property will be entered.

4. Facilities must be designed and operated to minimize sight and sound impacts in areas of high residential, commercial, recreational, and subsistence use and important wildlife habitat. Methods may include providing natural buffers and screening to conceal facilities, sound insulation of facilities, or by using alternative means approved by the Director, in consultation with OHMP.
5. The siting of facilities other than docks, roads, utility or pipeline corridors, will be prohibited within 500 feet of all fish bearing waterbodies. A facility may be sited within this buffer if the Lessee demonstrates to the satisfaction of the Director, in consultation with OHMP and the KPB, that a site location outside this buffer is not feasible and prudent or that a location inside the buffer is environmentally preferred. Road, utility and pipeline crossings must be aligned perpendicular or near perpendicular to watercourses.
6. Impacts to important wetlands must be minimized to the satisfaction of the Director, in consultation with OHMP and ADEC. The Director will consider whether facilities are sited in the least sensitive areas. Further, all activities within wetlands require permission from the U.S. Army Corps of Engineers (see Lessee Advisories).
7.
 - a. Pipelines that must cross marine waters will be constructed beneath the marine waters using directional drilling techniques, unless the Director, in consultation with OHMP and the KPB, approves an alternative method based on technical, environmental, and economic justification.
 - b. Wherever possible, onshore pipelines must utilize existing transportation corridors and be buried where soil and geophysical conditions permit. In areas where pipelines must be placed above ground, pipelines must be sited, designed and constructed to allow free movement of wildlife.
 - c. Pipelines must be located upslope of roadways and pads and must be designed to facilitate the containment and cleanup of any associated hydrocarbons and petroleum products. Pipelines, flowlines, and gathering lines must be designed and constructed to assure integrity against environmental conditions and geophysical hazards.
8. Dismantlement, Removal and Rehabilitation (DR&R): Upon abandonment of material sites, well sites, roads or other facilities, such facilities must be removed and the site rehabilitated to the satisfaction of the Director, unless the Director, in consultation with DMLW, OHMP, DEC, KPB, and any non-state surface owner, determines that such removal and rehabilitation is not in the state's interest.
9. With the exception of facilities specifically permitted, facilities must be consolidated, and the use of gravel must be minimized. Use of abandoned gravel structures may be permitted on an individual basis.
10. Gravel mining within an active floodplain will be prohibited. Upland sites will be restricted to the minimum necessary to effect lease operations efficiently.

Fish and Wildlife Habitat

11. Compaction or removal of snow cover overlying fish bearing waterbodies is prohibited except for approved crossings. If ice thickness is not sufficient to facilitate a crossing, ice or snow bridges may be required.

12. Surface entry will be prohibited within one-quarter mile of trumpeter swan nesting sites from April 1 through August 31. The siting of permanent facilities, including roads, material sites, storage areas, powerlines, and above-ground pipelines will be prohibited within one-quarter mile of known nesting sites. Trumpeter swan nesting sites will be identified by ADF&G at the request of the Lessee.
13. Before commencement of any activities requiring human presence, the Lessee shall consult with ADF&G to identify the locations of known bear den sites that are occupied in the season of proposed activity. Activities requiring human presence may not be conducted within ½-mile of known occupied brown bear dens, unless alternative mitigation measures are approved by ADF&G. A Lessee who encounters an occupied bear den not previously identified by ADF&G must report it to the Division of Wildlife Conservation, ADF&G, within 24 hours (Soldotna, 907-262-9368).

Access

14. Public access to, or use of, the leased area may not be restricted except within the immediate vicinity of well sites and related structures. Areas of restricted access must be identified in the plan of operations. Lease facilities and operations shall not be located so as to block access to or along navigable and public waters as defined at AS 38.05.965(13) and (17).

Waste and Wastewater Disposal

15. Waste from operations must be reduced, reused, or recycled to the maximum extent practicable. Garbage and domestic combustibles must be incinerated whenever possible or disposed of at an approved site in accordance with 18 AAC 60.
16. Discharge of drilling mud and cuttings into lakes, streams, rivers, or important wetlands is prohibited. On pad temporary cuttings storage will be allowed as necessary to facilitate annular injection, regulated by AOGCC, or backhaul operations in accordance with ADEC solid waste regulations at 18 AAC 60.
17. Wastewater disposal:
 - a. Unless authorized by NPDES and/or state permit, disposal of wastewater into freshwater bodies, intertidal areas, or estuarine waters is prohibited.
 - b. Disposal of produced waters to freshwater bodies, intertidal areas, and estuarine waters is prohibited.
 - c. Disposal of produced waters in upland areas, including wetlands, will be by subsurface disposal techniques approved by AOGCC.
 - d. Surface discharge of reserve pit fluids will be prohibited unless authorized in a permit issued by ADEC and approved by DMLW.

Fuel and Hazardous Substances

18. Secondary containment shall be provided for the storage of fuel or hazardous substances.

19. During equipment storage or maintenance, the site shall be protected from leaking or dripping fuel and hazardous substances by the placement of drip pans or other surface liners designed to catch and hold fluids under the equipment, or by creating an area for storage or maintenance using an impermeable liner or other suitable containment mechanism.
20. During fuel or hazardous substance transfer, secondary containment or a surface liner must be placed under all container or vehicle fuel tank inlet and outlet points, hose connections, and hose ends. Appropriate spill response equipment, sufficient to respond to a spill of up to five gallons, must be on hand during any transfer or handling of fuel or hazardous substances. Trained personnel shall attend transfer operations at all times.
21. Vehicle refueling shall not occur within the annual floodplain, except as addressed and approved in the plan of operations.
22. All independent fuel and hazardous substance containers shall be marked with the contents and the Lessee's or contractor's name using paint or a permanent label.
23. A fresh water aquifer monitoring well, and quarterly water quality monitoring, is required down gradient of a permanent fuel storage facility, unless alternative acceptable technology is approved by ADEC.

Prehistoric, Historic, and Archeological Sites

24.
 - a. Prior to the construction or placement of any structure, road, or facility, the Lessee must conduct an inventory of prehistoric, historic, and archeological sites within the area affected by an activity. The inventory must include consideration of literature provided by the KPB and local residents; documentation of oral history regarding prehistoric and historic uses of such sites; evidence of consultation with the Alaska Heritage Resources Survey and the National Register of Historic Places; and site surveys. The inventory must also include a detailed analysis of the effects that might result from the activity.
 - b. The inventory must be submitted to the Director for distribution to DPOR for review and comment. In the event that a prehistoric, historic, or archeological site or area may be adversely affected by a leasehold activity, the Director, after consultation with DPOR and the KPB, will direct the Lessee as to what course of action will be necessary to avoid or minimize the adverse effect.
 - c. In the event any site, structure, or object of prehistoric, historic, or archaeological significance is discovered during leasehold operations, the Lessee must immediately report such findings to the Director. The Lessee must make every reasonable effort to preserve and protect such site, structure, or object from damage until the Director, after consultation with the SHPO, has given directions as to its preservation.

Local Hire and Training

25. To the extent they are available and qualified, the Lessee is encouraged to employ local and Alaska residents and contractors for work performed on the leased area. The Lessee shall submit, as part of the plan of operations, a proposal detailing the means by which the Lessee will comply with the measure. The proposal must include a description of the operator's plans for partnering with local

communities to recruit and hire local and Alaska residents and contractors. The Lessee is encouraged, in formulating this proposal, to coordinate with employment services offered by the state of Alaska and local communities and to recruit employees from local communities.

26. A plan of operations application must include a description of a training program for all personnel, including contractors and subcontractors. The program must be designed to inform each person working on the project of environmental, social, and cultural concerns that relate to the individual's job. The program must use methods to ensure that personnel understand and use techniques necessary to preserve geological, archeological, and biological resources. In addition, the program must be designed to help personnel increase their sensitivity and understanding of community values, customs, and lifestyles in areas where they will be operating.

Lessee Advisories

Lessee Advisories are intended to alert the Lessee to possible additional restrictions that may be imposed at the permitting stage of a proposed project or activity, especially where entities other than DO&G have permitting authority.

DNR/OHMP and DNR/DMLW

1. Under the provisions of Title 41 of the Alaska Statutes, the measures listed below may be imposed by OHMP to protect designated anadromous fish bearing streams and to ensure the free and efficient passage of fish in all fish-bearing water bodies. Specific information on the location of anadromous waterbodies and prior written approval for activities affecting fishbearing waterbodies may be obtained from OHMP.
 - a. Alteration of river banks may be prohibited.
 - b. Operation of equipment within riparian habitats may be prohibited.
 - c. The operation of equipment, excluding boats, in open water areas of rivers and streams will be prohibited.
 - d. Bridges or non-bottom founded structures will be required for crossing fish spawning and important rearing habitats. In areas where culverts are used, they must be designed, installed, and maintained to provide for the efficient passage of fish.
2. Removal of water from fish bearing waterbodies shall be subject to prior written approval by OHMP and DMLW.
3. For activity in proximity to areas frequented by bears, the Lessee is encouraged to prepare and implement bear interaction plans to minimize conflicts between bears and humans. These plans could include measures to: (a) minimize attraction of bears to drill sites; (b) organize layout of facilities and work areas to minimize human/bear interactions; (c) warn personnel of bears near or on work sites and the proper procedures to take; (d) if authorized, deter bears from the work site; (e) provide contingencies in the event bears do not leave the site; (f) discuss proper storage and disposal of materials that may be toxic to bears; and (g) provide a systematic record of bears on site and in the immediate area.

DNR/OPMP

4. Pursuant to Alaska Statutes, the Lessee is required to comply with all requirements of the Alaska Coastal Management Program, including the District Coastal Management Plan.

ADEC

5. The Lessee is advised that air quality permits may be required prior to construction and operation, pursuant to state regulations administered by ADEC and the Clean Air Act administered by EPA.

USCOE

6. Any activity involving wetland-related dredge or fill activities requires a permit from the USCOE.

USFWS

7. Bald eagles are protected under the Bald Eagle Protection Act (16 U.S.C. 668-668c) and the Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-712) and are under authority of the USFWS. The Lessee is responsible to ensure its actions do not take bald eagles. The Eagle Protection Act defines "take" to include disturbing birds. Any nests located within ½-mile of the project site must be mapped, and destruction of nest trees or locations is prohibited. If any nests are located within ½-mile of a project site, the Lessee shall meet with the USFWS to review any site-specific concerns regarding the subject nest. The USFWS generally recommends no clearing of vegetation within 330 feet of any nest. No activity should occur within 660 feet of any nests between March 1 and June 1. Between June 1 and August 31, no activity should occur within 660 feet of active eagle nests until after juvenile birds have fledged, unless specifically authorized by the USFWS. While the USFWS can recommend ways to avoid the take of eagles, final accountability lies with the party responsible for the action.
8. The Lessee is advised of the need to comply with the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703) which is administered by the USFWS. Under the MBTA, it is illegal to "take" migratory birds, their eggs, feathers or nests. "Take" is defined (50 CFR 10.12) to include "pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting." The MBTA does not distinguish between "intentional" and "unintentional" take. Migratory birds include songbirds, waterfowl, shorebirds, and raptors. In Alaska, all native birds except grouse and ptarmigan (which are protected by the State of Alaska) are protected under the MBTA.

To ensure compliance with the MBTA, it is recommended that the Lessee survey the project area prior to construction, vegetation clearing, excavation, discharging fill or other activities that create disturbance, and confirm there are no active migratory bird nests. It is recommended the Lessee contact the USFWS for assistance and guidance on survey needs, and other compliance issues under the MBTA. While the Service can recommend methods to avoid unintentional take, responsibility for compliance with the MBTA rests with the Lessee.

CONCLUSION

Based upon the review of all currently available information, DO&G finds the Proposed Gas Storage Lease (ADL 390821), with mitigation measures and lessee advisories as described above, consistent with the ACMP.



Patrick S. Galvin
Petroleum Land Manager

Distribution List:

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Judy Bittner, ADNR/SHPO
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